



Gag_AF110965_BW_mod

ATGGGCGCCCGCGCCAGCATCCTGCGCGGCGGCAAGCTGGACGCCTGGGAGCGCATCCGCC
TGCGCCCGGCGGCAAGTAAGTGTACATGATGAAGCACCTGGTGTGGGCCAGCCGCGAGCT
GGAGAAGTTCGCCCTGAACCCCGGCTGCTGGAGACCAGCGAGGGCTGCAAGCAGATCATC
CGCCAGCTGCACCCCGCCCTGCAGACCGGCGAGGAGCTGAAGAGCCTGTTCAACACCG
TGGCCACCTGTACTGCGTGACGAGAAGATCGAGGTCCGCGACACCAAGGAGGCCCTGGA
CAAGATCGAGGAGGAGCAGAACAAGTGCCAGCAGAAGATCCAGCAGGCCGAGGCCGCCGAC
AAGGGCAAGGTGAGCCAGAACTACCCCATCGTGACAGAACCTGCAGGGCCAGATGGTGACC
AGGCCATCAGCCCCCGCACCTGAACGCCTGGGTGAAGGTGATCGAGGAGAAGGCCTTCAG
CCCCGAGGTGATCCCCATGTTACCGCCCTGAGCGAGGGCGCCACCCCCCAGGACCTGAAC
ACGATGTTGAACACCGTGGGCGGCCACAGGCCGCCATGCAGATGCTGAAGGACACCATCA
ACGAGGAGGCCCGCGAGTGGGACCGCGTGACCCCGTGACGCCGCCGCCATCGCCCCCGG
CCAGATGCGCGAGCCCCGCGGACGACATCGCCGGCACCAACAGCACCTGCGAGGAGCAG
ATCGCCTGGATGACCAAGCAACCCCCCATCCCCGTGGGCGACATCTACAAGCGGTGGATCA
TCCTGGGCTGAACAAGATCGTGCGGATGTACAGCCCCGTGAGCATCCTGGACATCAAGCA
GGGCCCCAAGGAGCCCTTCGCGACTACGTGGACCGCTTCTTCAAGACCTGCGCGCCGAG
CAGAGCACCCAGGAGGTGAAGAACTGGATGACCGACACCTCTGGTGACAGAACGCCAACCC
CCGACTGCAAGACCATCCTGCGCGCTCTCGGCCCGGCGCCAGCCTGGAGGAGATGATGAC
CGCTGCGAGGGCTGGGCGGCCCGAGCCACAAGGCCCGCGTGCTGGCCGAGGCGATGAGC
CAGGCCAACACACGCGTGATGATGCAGAAGAGCAACTTCAAGGGCCCCCGGCGCATCGTCA
AGTGCTTCAACTGCGGCAAGGAGGGCCACATCGCCCGCAACTGCCGCGCCCCCGCAAGAA
GGGCTGCTGGAAGTGCGGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAGGCC
AACTTCCTGGGCAAGATCTGGCCAGCCACAAGGGCGCCCCGGCAACTTCTGCGAGAGCC
GCCCCGAGCCACCGCCCCCCCCCGCGAGAGCTTCCGCTTCGAGGAGACCACCCCCGCGCA
GAAGCAGGAGAGCAAGGACCGCGAGACCTGACCAGCCTGAAGAGCCTGTTCCGGCAACGAC
CCCTGAGCCAGTAA

FIG. 1



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ATGGGCGCCCGCGCCAGCATCCTGCGCGCGGAGAAGCTGGACAAAGTGGGAGAAGATCCGCC
TGCGCCCCGGCGGCAAGAAGCACTACATGCTGAAGCACCTGGTGTGGGCCAGCCGCGAGCT
GGAGGGCTTCGCCCTGAACCCCGGCTGCTGGAGACCGCCGAGGGCTGCAAGCAGATCATG
AAGCAGCTGCAGCCCCGCTGCAGACCGGCACCGAGGAGCTGCGCAGCCTGTACAACACCG
TGGCCACCTGTACTGCGTGCAAGCCGCGCATCGAGGTCGCGACACCAAGGAGGCCCTGGA
CAAGATCGAGGAGGAGCAGAACAAGTCCCAGCAGAAGACCCAGCAGGCCAAGGAGGCCGAC
GGCAAGGTGAGCCAGAATAACCCATCGTGCAAGACCTGCAGGGCCAGATGGTGCACCAGG
CCATCAGCCCCCGCACCCCTGAACGCTGGGTGAAGGTGATCGAGGAGAAGGCCTTCAGCCC
CGAGGTGATCCCCATGTTACCCGCTGAGCGAGGGCGCCACCCCCCAGGACCTGAACACG
ATGTTGAACACCGTGGGCGGCCACAGGCCGCGCATGCAGATGCTGAAGGACACCATCAACG
AGGAGGCCCGCGAGTGGGACCGCCTGCACCCCGTGACGGCCGCGCCCGTGGCCCCCGGCCA
GATGCGCGACCCCCGCGGCAGCGACATCGCCGGCGGCCACAGCACCTGCAGGAGCAGATC
GCCTGGATGACCAAGAACCCCCCGTGCCTGGGCGACATCTACAAGCGGTGGATCATCC
TGGGCTGAACAAGATCGTGCGGATGTACAGCCCCGTGAGCATCCTGGACATCCGCCAGGG
CCCCAAGGAGCCCTTCCGCGACTACGTGGACCGCTTCTTCAAGACCTGCGCGCCGAGCAG
GCCACCCAGGACGTGAAGAACTGGATGACCGAGACCTGCTGGTGAGAACGCCAACCCCG
ACTGCAAGACCATCTGCGCGCTCTCGGCCCGGCGCCACCTGGAGGAGATGATGACCGC
CTGCCAGGGCGTGGGCGGCCCCGCGCCACAAGGCCGCGTGTGGCCGAGGCGATGAGCCAG
GCCAACAGCGTGAACATCATGATGCAGAAGAGCAACTTCAAGGGCCCCCGCGCAACGTCA
AGTGCTTCAACTGCGGCAAGGAGGGCCACATCGCCAAGAACTGCCGCGCCCCCGCAAGAA
GGGTGCTGGAAGTGCGGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAGGCC
AACTTCTGGGCAAGATCTGGCCAGCCACAAGGGCCGCCCCGGCAACTTCTTCAGAAACC
GCAGCGAGCCCGCGCCCCCACCCTGCCACCGCCCCCCCCCGCGAGAGCTTCCGCTTCGA
GGAGACCACCCCGCCCCCAAGCAGGAGCCCAAGGACCGCGAGCCCTACCGCGAGCCCCCTG
ACCGCCCTGCGCAGCCTGTTGCGCAGCGGCCCCCTGAGCCAGTAA

FIG. 2

FIG. 3



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--> signal peptide (1-72) \/-->
ATGCGCGTGC GCGGCATCCTGCGCAGCTGGCAGCAGTGGTGGATCTGGGGCATCCTGGGCTTCTGGATCTGCAGCG
gp120/140/160 (72)
GCCTGGGCAACCTGTGGGTGACCGTGTACGACGGCGTGCCCGTGTGGCGCGAGGCCAGCACCCCTGTTCTGCGC
CAGCGACGCCAAGGCTACGAGAAGGAGGTGCACAACGTGTGGGCCACCCACGCTGCGTGCCCAACGCCCAAC
CCCCAGGAGATCGAGCTGGACAACGTGACCGAGAATTCAACATGTGGAAGAACGACATGGTGGACCCAGATGCACG
AGGACATCATCAGCCTGTGGGACCAGAGCCTGAAGCCCCGCGTGAAGCTGACCCCCCTGTGCGTGACCCCTGAAGTG
CACCAACTACAGCACCAACTACAGCAACACCATGAACGCCACCCAGCTACAACAACAACACCACCGAGGAGATCAAG
AACTGCACCTTCAACATGACCACCGAGCTGCGCGACAAGAAGCAGCAGGTGTACGCCCTGTTCTACAAGCTGGACA
TCGTGCCCTGAACAGCAACAGCAGCGAGTACCGCCTGATCAACTGCAACACCAGCGCCATCACCCAGGCCTGCC
CAAGGTGAGCTTCGACCCCCATCCCCATCCACTACTGCGCCCCCGCGGCTACGCCATCCTGAAGTGAAGAACAAC
ACCAGCAACGGCACCGGCCCTGCCAGAAGCTGAGCACCGTGCAGTGCACCCACGGCATCAAGCCCGTGGTGAAGCA
CCCCCTGCTGCTGAACGGCAGCCTGGCCGAGGGCGGCGAGATCATCATCCGACGACAAGAACTGAGCAACAACGC
CTACACCATCATCGTGACCTGAACGACAGCGTGGAGATCGTGTGACCCCGCCCCAACAAACACCCGCAAGGGC
ATCCGCATCGGCCCCGGCCAGACCTTCTACGCCACCGAGAATCATATCGGCGACATCCGCCAGGCCCACTGCAACA
TCAGCGCCGGCGAGTGGAAACAGGCCGTGACGCGCGTGAGCGCCAAGCTGCGCGAGCACTTCCCAAAGACCAT
CGAGTTCAGCCCGACAGCGGGCGGCGACCTGGAGATCACCAACCACAGCTTCAACTGCGCGGCGAGTCTTCTTAC
TGCAACACCCAGCAAGCTGTTCAACAGCAGCTACAACGGCACAGCTACCGCGGCACCGAGAGCAACAGCAGCATCA
TCACCTGCCCTGCGCATCAAGCAGATCATCGACATGTGGCAGAAGGTGGCGGCATCTACGCCCCCCCCAT
CGAGGGCAACATCACCTGCAGCAGCAGCATCACCGCCTGCTGCTGGCCCGGACGGCGGCTGGACAACATCACCC
ACCGAGATCTTCGCCCCCAGGGCGGCGACATGAAGGACAACCTGGCGCAACGAGCTGTACAAGTACAAGGTGGTGG
AGATCAAGCCCCCTGGGCGTGGCCCCCACCAGGCCAAGCGCGCGTGGTGGAGCGCGAGAAGCGCGCCGTGGGCAT
CGGCGCCGTGATCTTCGGCTTCTGGGCGCGCGCGGCGAGCAACATGGGCGCGGCCAGCATCACCTGACCGCCAG
GCCCCGACGCTGCTGAGCGGCATCGTGACGAGCAGAGCAACCTGCTGCGCGCATCGAGGCCAGCAGCAGCATGC
GCTGCTGGGCATCTGGGGCTGCAGCGGAAGCTGATCTGCACCAACCCTGCCCCGGAACAGCAGCTGGAGCAAC
AAGACCCAGGGCGAGATCTGGGAGAATGACCTGGATGCAGTGGGACAAGGAGATCAGCAACTACACCGGCATCA
TCTACCGCCTGCTGGAGGAGAGCCAGAACCAGCAGGAGCAGAACGAGAAGGACCTGCTGGCCCTGGACAGCCGCA
CAACCTGTGGAGCTGGTTCAACATCAGCAACTGGCTGTGGTACATCAAGATCTTATCATGATCGTGGGCGGCGCTG
ATCGCCTGCGCATCATCTTCGCGTGTGAGCATCGTGAACCGCGTGCGCCAGGGCTACAGCCCCCTGAGCTTCC
AGACCCTGACCCCCAACCCCGCGGCTGGACCGCTGGGCCGATCGAGGAGGAGGGCGGCGAGCAGGACCGCGA
CCGCGAGCATCCGCTGGTGAGGGCTTCTGCGCCTGGCCTGGGACGACCTGCGCAGCCTGTGCTGTTACGCTAC
CACCGCCTGCGCGACCTGATCTGGTGACCGCCCGCTGGTGGAGCTGCTGGGCGCAGCAGCCCCCGCGGCTGC
AGCGCGGTGGGAGGCCCTGAAGTACCTGGGACGCTGGTGCACTGCGGCTGGAGCTGAAGAAGAGCGCCAC
CAGCCTGCTGGACAGCATCGCCATCGCCGTGGCCGAGGGCACCACCGCATCATCGAGGTGATCCAGCGCATCTAC
CGCGCCTTCTGCAACATCCCCCGCGCGTGGCCAGGGCTTCGAGGCGGCCCTGCAGTAA

FIG. 4



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ATGGGCGCCCCGCCAGCATCCTGCGCGGCGGAAGCTGGACGCTGGGAGCGCATCCGCTGCGCCCCGG
CGGCAAGAAGTGCTACATGATGAAGCACCTGGTGTGGGCCAGCCGCGAGCTGGAGAAGTTCGCCCTGAACC
CCGGCCTGCTGGAGACCAGCGAGGGCTGCAAGCAGATCATCCGCCAGCTGCACCCCGCCCTGCAGACCGGC
AGCGAGGAGCTGAAGAGCCTGTTCACACCGTGGCCACCCTGTACTGCTGCACGAGAAGATCGAGGTGCG
CGACACCAAGGAGGCCCTGGACAAGATCGAGGAGGAGCAGAACAAGAGCCAGCAGAAGATCCAGCAGGCCG
AGGCCGCCGACAAGGGCAAGGTGAGCCAGAACTACCCCATCGTGCAGAACTGCAGGGCCAGATGGTGCAC
CAGGCCATCAGCCCCCGCACCTGAACGCGCTGGGTGAAGGTGATCGAGGAGAAGGCCCTTCAGCCCCGAGGT
GATCCCCATGTTACCGCCCTGAGCGAGGGCGCCACCCCGCAGACCTGAACACCATGCTGAACACCGTGG
GCGGCCACCAGGCCGCCATGCAGATGCTGAAGGACACCATCAACGAGGAGGCCGCCGAGTGGGACCGCGTG
CACCCCGTGACGCCGGCCCCATCGCCCCCGGCCAGATGCGCGAGCCCCCGGCCAGCGACATCGCCGGCAC
CACCAGACCCCTGCAGGAGCAGATCGCCTGGATGACCGCAACCCCCCATCCCCGTGGGCGACATCTACA
AGCGCTGGATCATCCTGGGCCTGAACAAGATCGTGCCTATGTACAGCCCCGTGAGCATCCTGGACATCAAG
CAGGGCCCCAAGGAGCCCTTCCGCGACTACGTGGACCGCTTCTTCAAGACCCTGCGCGCCGAGCAGAGCAC
CCAGGAGGTGAAGAACTGGATGACCGACACCCTGCTGGTGCAGAACGCCAACCCGACTGCAAGACCATCC
TGCGCGCCCTGGGGCCCCGGCGCCAGCCTGGAGGAGATGATGACCGCCTGCCAGGGCGTGGCGGGCCCCAGC
CACAAAGGCCCGCGTCTGGCCGAGGCCATGAGCCAGGCCAACACCAGCGTGATGATGCAGAAGAGCAACTT
CAAGGGCCCCCGCGCATCGTGAAGTGCCTTCAACTGCGGCAAGGAGGGCCACATCGCCCGCAACTGCCGCG
CCCCCGCAAGAAGGGCTGCTGGAAGTGCGGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAG
GCCAACTTCTGGGCAAGATCTGGCCAGCCACAAGGGCCGCCCCGGCAACTTCTGCAGAGCCGCCCCGA
GCCACCGCCCCCCCCCGCCGAGAGCTTCCGCTTCGAGGAGACCACCCCGGCCAGAAGCAGGAGAGCAAGG
ACCGCGAGACCCTGACCAGCCTGAAGAGCCTGTTGCGCAACGACCCCTGAGCCAGTAA

FIG. 5



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ATGGGCGCCCGCGCCAGCATCCTGCGCGGCGGAGAAGCTGGACAAGTGGGAGAAGATCCGCCTGCGCCCCGG
CGGCAAGAAGCACTACATGCTGAAGCACCTGGTGTGGGCCAGCCGCGAGCTGGAGGGCTTCGCCCTGAACC
CCGGCCTGCTGGAGACCGCCGAGGGCTGCAAGCAGATCATGAAGCAGCTGCAGCCCGCCTGCAGACCGGC
ACCGAGGAGCTGCGCAGCCTGTACAACACCGTGGCCACCCTGTACTGCGTGCACGCCGGCATCGAGGTGCG
CGACACCAAGGAGGCCCTGGACAAGATCGAGGAGGAGCAGAACAAGAGCCAGCAGAAGACCCAGCAGGCCA
AGGAGGCCGACGGCAAGGTGAGCCAGAACTACCCCATCGTGCAGAACCTGCAGGGCCAGATGGTGCACCAG
GCCATCAGCCCCCGCACCTGAACGCCTGGGTGAAGGTGATCGAGGAGAAGGCCTTCAGCCCCGAGGTGAT
CCCCATGTTACCGCCCTGAGCGAGGGCGCCACCCCCCAGGACCTGAACATGCTGAACACCGTGGGCG
GCCACCGGCCGCCATGCAGATGCTGAAGGACACCATCAACGAGGAGGCCGCCGAGTGGGACCGCCTGCAC
CCCGTGCAGGCCCGCCCCGTGGCCCCCGGCCAGATGCGCGACCCCCCGCGGAGCGACATCGCCGGCGCCAC
CAGCACCCCTGCAGGAGCAGATCGCCTGGATGACCAGCAACCCCCCGTGCCCGTGGGCGACATCTACAAGC
GCTGGATCATCTGGGCCTGAACAAGATCGTGCGCATGTACAGCCCCGTGAGCATCTGGACATCCGCCAG
GGCCCCAAGGAGCCCTTCGCGACTACGTGGACCCTTCTTCAAGACCCTGCGCGCCGAGCAGGCCACCCA
GGACGTGAAGAAGTGGATGACCGAGACCTGCTGGTGCAGAACGCCAACCCGACTGCAAGACCATCTGCG
GCGCCCTGGCCCCCGGCCACCCTGGAGGAGATGATGACCGCCTGCCAGGGCGTGGGCGGCCCGGCCAC
AAGGCCCGCGTGCTGGCCGAGGCATGAGCCAGGCCAACAGCGTGAACATCATGATGCAGAAGAGCAACTT
CAAGGGCCCCCGCGCAACGTGAAGTGTCTTCAACTGCGGCAAGGAGGGCCACATCGCCAAGAACTGCCGCG
CCCCCGCAAGAAGGGCTGCTGGAAGTGGGCAAGGAGGGCCACCAGATGAAGGACTGCACCGAGCGCCAG
GCCAACTTCTGGGCAAGATCTGGCCAGCCACAAGGGCCGCCCGGCAACTTCTGCGAGAACCGCAGCGA
GCGCGCGCCCCCACCCTGCCCCACCGCCCCCCCCCGCGAGAGCTTCCGCTTCGAGGAGACCACCCCCGCC
CCAAGCAGGAGCCCAAGGACCGCGAGCCCTACCGCGAGCCCTGACCGCCTGCGCAGCCTGTTGCGCAGC
GGCCCCCTGAGCCAGTAA

FIG. 6